WHAT IS CLAIMED IS:

1. An electroluminescent device comprising a cathode and anode, and, located therebetween, at least one "A" layer containing a fluorescent material that emits blue light and a hydrocarbon host and at least one "B" layer containing a phosphorescent yellow-light-emitting material.

2. The device of claim 1 wherein Layer A emits light with color defined by the following relationship between CIE x and y coordinates:

$2.4 * x - 0.43 < y < -0.077 * x + 0.35$.

3. The device of claim 1 wherein Layer B emits light with color defined by the following relationship between CIE x and y coordinates:

$0.24 * x + 0.26 < y < 3 * x - 0.6$.

4. The device of claim 1 wherein Layer A emits light with color defined by the following relationship between CIE x and y coordinates:

$2.4 * x - 0.43 < y < -0.077 * x + 0.35$,

and Layer B emits light with color defined by the following relationship:

$0.24 * X + 0.26 < y < 3 * x - 0.6$.

5. The device of claim 4 wherein the relationship between the CIE color coordinates of light emitted by Layer A and B is defined by equations (1) and (2), respectively:

$$y_y > (0.25 - y_b) / (0.31 - x_b) * x_y + (y_b * 0.31 - 0.25 * x_b) / (0.31 - x_b) \quad (1)$$

$$y_y < (0.41 - y_b) / (0.31 - x_b) * x_y + (y_b * 0.31 - 0.41 * x_b) / (0.31 - x_b) \quad (2)$$

wherein:

(x_b, y_b) represent the x and y color coordinates of light emitted by layer A;

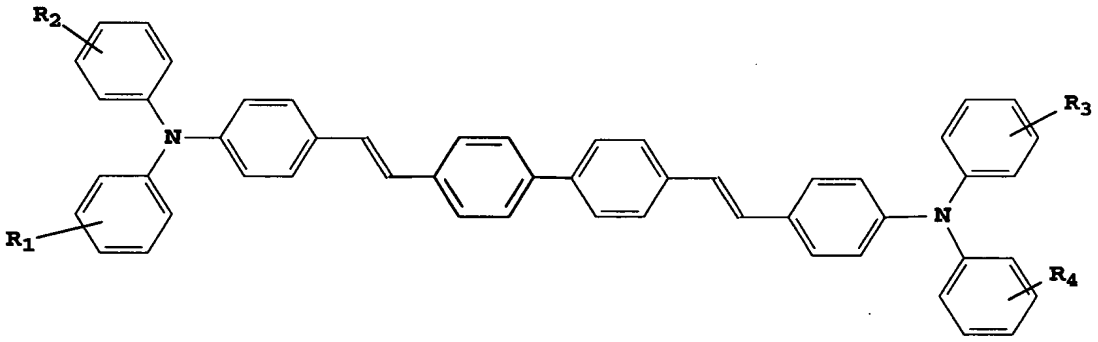
(x_y, y_y) represent the x and y color coordinates of light emitted by layer B.

6. The device of claim 1 wherein the fluorescent material comprises a perylene group.

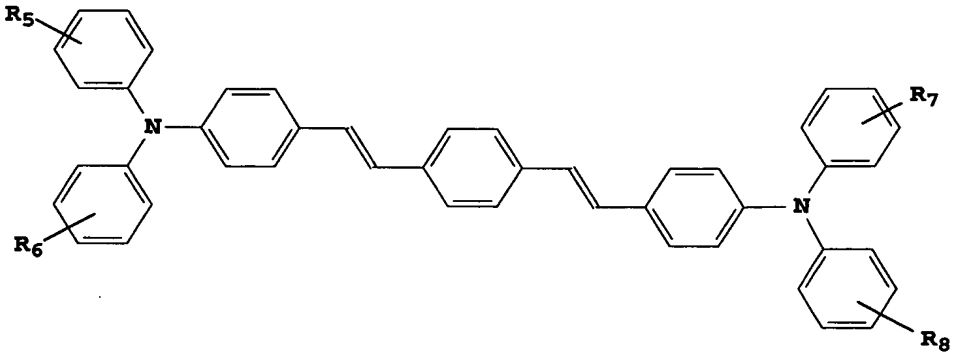
7. The device of claim 1 wherein the fluorescent material comprises 2,5,8,11-tetra-*t*-butyl perylene (TBP).

8. The device of claim 1 wherein the fluorescent material comprises a blue-light-emitting distyrylbenzene group or distyrylbiphenyl group.

9. The device of claim 1 wherein the fluorescent material comprises a material of Formula 1a or Formula 1b,



Formula 1a



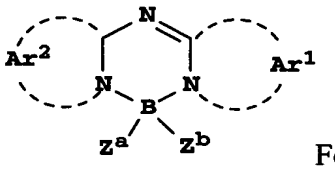
Formula 1b

wherein:

each of $R_1 - R_8$ independently represent hydrogen or an independently selected substituent.

10. The device of claim 1 wherein the fluorescent material comprises 1,4-bis[2-[4-[N,N-di(p-tolyl)amino]phenyl]vinyl]benzene (BDTAPVB) or 1,4-bis[2-[4-[N,N-di(p-tolyl)amino]phenyl]vinyl]biphenyl.

11. The device of claim 1 wherein the fluorescent material comprises a compound represented by Formula 2a,



Formula 2a

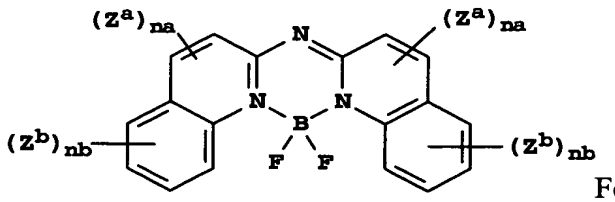
wherein:

Ar^1 and Ar^2 independently represent the atoms necessary to form an aromatic ring group; and

Z^a and Z^b represent independently selected substituents.

12. The device of claim 1 wherein the fluorescent material comprises a boron atom.

13. The device of claim 1 wherein the fluorescent material comprises a compound represented by Formula 2b,



Formula 2b

wherein:

each Z^a and Z^b independently represents an independently selected substituent;

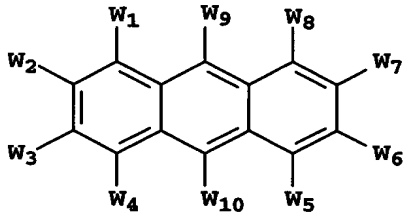
each na independently represents 0, 1, or 2; and

each nb independently represents 0-4.

14. The device of claim 1 wherein the fluorescent material is between 0.1 and 15 wt% of the light-emitting layer A.

15. The device of claim 1 wherein the host material comprises an anthracene group.

16. The device of claim 1 wherein the host material comprises a material represented by Formula 3,



Formula 3

wherein:

each of W_1-W_{10} independently represent hydrogen or an independently selected hydrocarbon substituent, provided that two adjacent substituents can combine to form rings.

17. The device of claim 16 wherein W^9 and W^{10} irepresent naphthyl groups.

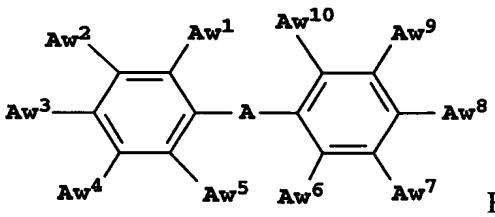
18. The device of claim 16 wherein W^9 and W^{10} represent a naphthyl group and a biphenyl group.

19. The device of claim 16 wherein W^9 represents a biphenyl group.

20. The device of claim 16 wherein W^1 and W^2 join together and represent the atoms necessary to form a fused benzene group.

21. The device of claim 16 wherein W^1 and W^2, W^3 and W^4, and W^5 and W^6, and W^7 and W^8, independently represent hydrogen, a hydrocarbon substituent, or adjacent groups that join together to form a fused benzene group.

22. The device of claim 1 wherein the host material is represented by Formula 4,



Formula 4

wherein:

each or $Aw^1 - Aw^{10}$ independently represent hydrogen or aromatic hydrocarbon groups; and

A represents a phenylene group or a biphenylene group.

23. The device of claim 22, wherein A represents a phenylene group.

24. The device of claim 1 wherein the host material comprises 9,10-di-(2-naphthyl)anthracene (ADN), 2-*t*-butyl-9,10-di-(2-naphthyl)anthracene (TBADN), or 10-(4-biphenyl)-9-(2-naphthyl)anthracene.

25. The device of claim 1 wherein the phosphorescent emitting material comprises an organometallic complex comprising a metal and at least one ligand, wherein the metal is selected from the group consisting of Ir, Rh. Ru, Pt, and Pd.

26. The device of claim 25 wherein the metal is Ir.

27. The device of claim 25 wherein at least one ligand comprises a 3-arylisoquinoline group.

28. The device of claim 25 wherein the ligand comprises a 3-phenyl-isoquinoline group.

29. The device of claim 25 wherein the ligand comprises a naphthyl-pyridine group.

30. The device of claim 1 wherein the phosphorescent material is between 2 and 15 wt% of the light-emitting layer B.

31. A display comprising the electroluminescent device of claim 1.

32. The device of claim 1 wherein white light is produced either directly or by using filters.

33. An area lighting device comprising the electroluminescent device of claim 1.

34. A process for emitting light comprising applying a potential across the device of claim 1.